AMENDMENTS TO THE CLAIMS:

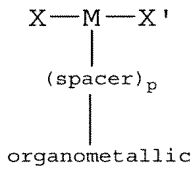
1-31. (Canceled)

32. (Previously presented) A process for preparing a material capable of luminescence, said material comprising:

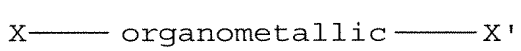
a polymer or an oligomer and an organometallic group, wherein the polymer or oligomer is at least partially conjugated, the organometallic group is covalently bound to the polymer or oligomer, and at least one of the nature, location, and proportion of the polymer or oligomer and the organometallic group is selected so that the luminescence is predominantly phosphorescence;

said process including:

using Suzuki polymerization to react at least one first monomer with a plurality of second monomers which are different from the first monomer, wherein each monomer comprises an aryl or heteroaryl group and has at least two reactive groups selected from the group consisting of halide groups, boronic acid groups, boronic ester groups, and borane groups, and the first monomer has a general formula selected from the group consisting of formula IV and formula V:



(IV)



(V)

wherein the organometallic group in the formula V includes a carbon-metal bond, X and X' each is a reactive group independently selected from the group consisting of halide groups, boronic acid groups, boronic ester groups, and borane groups, $p \geq 0$, and M is a group comprising an aryl or heteroaryl group.

33. (Previously presented) A process according to claim 32, wherein a plurality of first monomers is reacted with the plurality of second monomers.

34. (Previously presented) A process according to claim 33, wherein the plurality of first monomers is selected so that the material comprises the organometallic group in an amount in the range of from 1 to 10% by weight.

35. (Previously presented) A process according to claim 32, wherein at least one of X and X' is a boronic acid group.

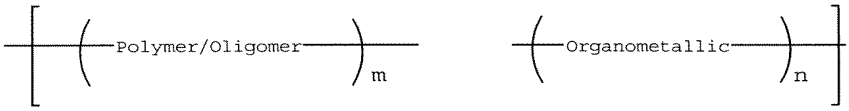
36. (Previously presented) A process according to claim 32, wherein the polymer or oligomer is linear.

37. (Previously presented) A process according to claim 32, wherein the second monomer comprises a group selected from the group consisting of 2,7-linked 9,9 disubstituted fluorenes, p-linked dialkyl phenylenes, p-linked disubstituted phenylenes, phenylene vinylenes, 2,5-linked benzothiadiazoles, 2,5-linked substituted benzothiadiazoles, 2,5-linked disubstituted benzothiadiazoles, 2,5-linked substituted thiophenes, 2,5-linked unsubstituted thiophenes, and triarylamines.

38. (Previously presented) A process according to claim 32, wherein the organometallic group contains a transition metal.

39. (Previously presented) A process according to claim 38, wherein the organometallic group contains a precious metal.

40. (Previously presented) A process according to claim 32, wherein the material has a general formula III:



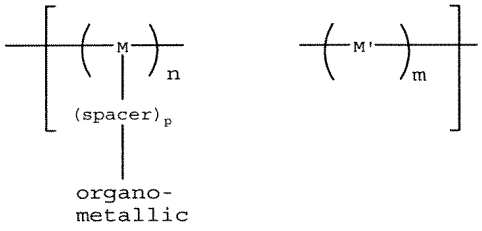
(III)

wherein m ≥1 and n ≥1.

41. (Previously presented) A process according to claim 40, wherein the first monomer has the general formula V, the organometallic group represents a metal surrounded by a number of ligands, and X and X' are bound to the same ligand in the organometallic group.

42. (Previously presented) A process according to claim 32, wherein the first monomer has the general formula IV, and the organometallic group includes a carbon-metal bond.

43. (Previously presented) A process according to claim 32, wherein the material has a general formula I:



(I)

wherein m ≥2, n ≥1, p ≥0, and M and M' each independently comprises an aryl or heteroaryl group.

44. (Previously presented) A process according to claim 43, wherein M and M' each independently comprises a group selected from the group consisting of 2,7-linked 9,9 disubstituted fluorenes, p-linked dialkyl phenylenes, p-linked disubstituted phenylenes, phenylene vinylenes, 2,5-linked benzothiadiazoles, 2,5-

linked substituted benzothiadiazoles, 2,5-linked disubstituted benzothiadiazoles, 2,5-linked substituted thiophenes, 2,5-linked unsubstituted thiophenes, and triarylamines.

45. (Previously presented) A process according to claim 32, wherein the organometallic group is conjugatively bound to the polymer or oligomer in the material.

46. (Previously presented) A process according to claim 43, wherein the spacer represents a non-conjugated spacer group.

47. (Previously presented) A method of making an optical device, including:

preparing a material capable of luminescence according to the process of claim 32.

48. (Previously presented) A method according to claim 47, further including depositing the material capable of luminescence on a substrate by solution-processing.

49. (Previously presented) A method according to claim 47, wherein the optical device comprises an electroluminescent device.

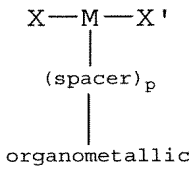
50. (Previously presented) A method according to claim 49, wherein the electroluminescent device comprises:

a first charge carrier injecting layer for injecting positive charge carriers;

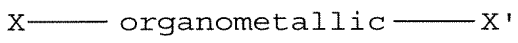
a second charge carrier injecting layer for injecting negative charge carriers; and,

a light-emissive layer located between the first and second charge carrier injecting layers for generating light, said light-emissive layer comprising the material capable of luminescence.

51. (Previously presented) A monomer for use in a polymerization reaction having a general formula selected from the group consisting of formula IV and formula V:



(IV)



(V)

wherein X and X' each is a reactive group independently selected from the group consisting of halide groups, boronic acid groups, boronic ester groups and borane groups, $p \geq 0$, M is a group comprising an aryl or heteroaryl group, the organometallic group represents a metal surrounded by a number of ligands, the organometallic group in the formula V includes a carbon-metal bond, and X and X' in the formula V are bound to the same ligand in the organometallic group.

52. (Previously presented) A monomer according to claim 51, wherein at least one of X and X' is a boronic acid group.

53. (Previously presented) A monomer according to claim 51, wherein the organometallic group contains a transition metal.

54. (Previously presented) A monomer according to claim 53, wherein the organometallic group contains a precious metal.

55. (Previously presented) A monomer according to claim 51, wherein the monomer has the general formula IV, and the organometallic group includes a carbon-metal bond.

56. (Previously presented) A monomer according to claim 51, wherein the monomer has the general formula IV, and the spacer represents a non-conjugated spacer group.

57. (Previously presented) A monomer according to claim 51, wherein the monomer has the general formula IV, and M comprises a group selected from the group consisting of 2,7-linked 9,9 disubstituted fluorenes, p-linked dialkyl phenylenes, p-linked disubstituted phenylenes, phenylene vinylenes, 2,5-linked benzothiadiazoles, 2,5-linked substituted benzothiadiazoles, 2,5-linked disubstituted benzothiadiazoles, 2,5-linked substituted thiophenes, 2,5-linked unsubstituted thiophenes, and triarylamines.

58. (Previously presented) A material capable of luminescence, said material comprising a polymer or oligomer and an organometallic group, wherein the polymer or oligomer is at least partially conjugated, the organometallic group is covalently bound to the polymer or oligomer, and at least one of the nature, location, and proportion of the polymer or oligomer and the organometallic group in the material is selected so that the luminescence is predominantly phosphorescence, wherein the organometallic group is pendent from the backbone of the polymer or oligomer, and a non-conjugated spacer group separates the organometallic group from the backbone of the polymer or oligomer.

59. (Previously presented) A material according to claim 58, wherein the polymer or oligomer is linear.

60. (Previously presented) A material according to claim 58, comprising at least two organometallic groups.

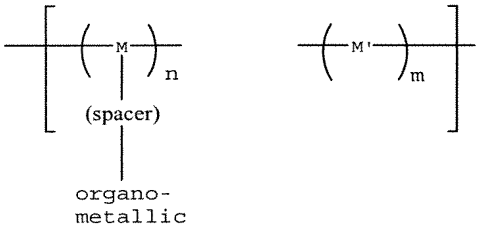
61. (Previously presented) A material according to claim 58, wherein the organometallic group contains a transition metal.

62. (Previously presented) A material according to claim 61, wherein the organometallic group contains a precious metal.

63. (Previously presented) A material according to claim 58, wherein the material comprises the organometallic group in an amount in the range from 1 to 10% by weight.

64. (Previously presented) A material according to claim 58, wherein the non-conjugated spacer group is selected from the group consisting of alkyl groups and alkyl ether groups.

65. (Previously presented) A material according to claim 58 having a general formula I:



(I)

wherein $m \geq 2$, $n \geq 1$, the spacer represents a non-conjugated spacer group, and M and M' each independently comprises an aryl or heteroaryl group.

66. (Previously presented) A material according to claim 65, wherein M and M' each independently comprises a group selected from the group consisting of 2,7-linked 9,9 disubstituted fluorenes, p-linked dialkyl phenylenes, p-linked disubstituted phenylenes, phenylene vinylenes, 2,5-linked benzothiadiazoles, 2,5-linked substituted benzothiadiazoles, 2,5-linked disubstituted benzothiadiazoles, 2,5-linked substituted thiophenes, 2,5-linked unsubstituted thiophenes, and triarylamines.

67. (Previously presented) A material according to claim 58, wherein the material is solution processable.

68. (Previously presented) A material according to claim 58, wherein the organometallic group contains a conjugated bidentate ligand.

69. (Previously presented) A material according to claim 68, wherein the organometallic group contains a conjugated bidentate ligand comprising at least one nitrogen atom for coordination with the metal of the organometallic group.

70. (Previously presented) A material according to claim 58, wherein the organometallic group contains a ligand comprising a group selected from the group consisting of 2,7-linked 9,9 disubstituted fluorenes, p-linked dialkyl phenylenes, p-linked disubstituted phenylenes, phenylene vinylenes, 2,5-linked benzothiadiazoles, 2,5-linked substituted benzothiadiazoles, 2,5-linked disubstituted benzothiadiazoles, 2,5-linked substituted thiophenes, 2,5-linked unsubstituted thiophenes, and triarylamines.

71. (Previously presented) A material according to claim 58, wherein the organometallic group comprises a cyclometalated precious metal complex.

72. (Previously presented) A material according to claim 71, wherein the cyclometalated precious metal complex is selected from the group consisting of platinum polyynes, platinum-porphyrins, and iridium tris(phenylpyridine) complexes.

73. (Previously presented) An optical device, which comprises a substrate and a material as defined in claim 58 supported on the substrate.

74. (Previously presented) An optical device according to claim 73, wherein the device is an electroluminescent device comprising:

a first charge carrier injecting layer for injecting positive charge carriers;

a second charge carrier injecting layer for injecting negative charge carriers; and,

a light-emissive layer located between the first and second charge carrier injecting layers for generating light and comprising a material as defined in claim 58.

75. (New) A process for preparing a material capable of luminescence, said material comprising a polymer or oligomer and an organometallic group, the organometallic group being covalently bound to the polymer or oligomer and the nature, location and/or proportion of the polymer or oligomer and of the organometallic group in the material being selected so that the luminescence predominantly is phosphorescence; said process comprising:

(a) reacting monomers to form a polymer or oligomer wherein each monomer has at least two reactive groups selected from the group consisting of a halide group, a boronic acid group, a boronic ester group, and a borane group, and each monomer comprises an aryl or heteroaryl group; and

(b) terminating the polymer or oligomer formed in step (a) using an end-capping reagent, said end-capping reagent comprising one reactive group selected from the group consisting of a halide group, a boronic acid group, a boronic ester

group, and a borane group, said end-capping reagent further containing an organometallic group.

76. (New) A process according to claim 75, wherein the organometallic group is pendent from the backbone of the polymer or oligomer in the material.

77. (New) A process according to claim 75, wherein the organometallic group forms a part of the backbone of the polymer or oligomer in the material.

78. (New) A process according to claim 75, wherein the polymer or oligomer is at least partially conjugated.

79. (New) A process according to claim 75, wherein the polymer or oligomer is linear.

80. (New) A process according to claim 75, wherein the luminescence is electroluminescence.

81. (New) A process according to claim 75, wherein the organometallic group is conjugatively bound to the polymer or oligomer in the material.

82. (New) A process according to claim 75, wherein the polymer or oligomer is semiconducting.

83. (New) A process according to claim 82, wherein the aryl or heteroaryl group comprises a group selected from the group consisting of 2,7-linked 9,9 disubstituted fluorenes, p-linked dialkyl phenylenes, p-linked disubstituted phenylenes, phenylene vinylenes, 2,5-linked benzothiadiazoles, 2,5-linked substituted

benzothiadiazoles, 2,5-linked disubstituted benzothiadiazoles, 2,5-linked substituted thiophenes, unsubstituted thiophenes, and triarylamines.

84. (New) A process according to claim 75, wherein the organometallic group contained in the end-capping reagent contains a transition metal.

85. (New) A process according to claim 84, wherein the organometallic group contained in the end-capping reagent contains a precious metal.

86. (New) A material capable of phosphorescence comprising a metal surrounded by ligands, wherein one or more of the ligands comprises a polymer or oligomer selected from the group consisting of electron transport materials, hole transport materials, and semiconducting materials.

87. (New) A material according to claim 86, wherein the polymer or oligomer is substantially or fully conjugated.

88. (New) A material according to claim 87, wherein the polymer or oligomer comprises an aryl or heteroaryl repeat unit.

89. (New) A material according to claim 88, wherein the aryl or heteroaryl repeat unit comprises a fluorene or phenyl group.

90. (New) A material according to claim 88, wherein the aryl or heteroaryl repeat unit comprises a group selected from the group consisting of 2,7-linked 9,9 disubstituted fluorenes, p-linked dialkyl phenylenes, p-linked disubstituted phenylenes, phenylene vinylenes, 2,5-linked disubstituted benzothiadiazoles, 2,5-linked substituted benzothiadiazoles, 2,5-linked disubstituted benzothiadiazoles, 2,5-linked substituted thiophenes, 2,5-linked unsubstituted thiophenes, and triarylamines.

91. (New) A material according to claim 86, wherein the polymer or oligomer includes alkyl or alkoxy solubilising groups.

92. (New) A material according to claim 86, wherein the polymer or oligomer is linear.

93. (New) A material according to claim 86, wherein the metal is a transition metal.

94. (New) A material according to claim 93, wherein the metal is a precious metal.

95. (New) An optical device or a component therefor, which comprises a substrate and a material as defined in claim 86 supported on the substrate.

96. (New) An optical device or a component therefor according to claim 95, wherein the optical device comprises an electroluminescent device.

97. (New) An optical device according to claim 96, wherein the electroluminescent device further comprises:

a first charge carrier injecting layer for injecting positive charge carriers;

a second charge carrier injecting layer for injecting negative charge carriers; and

a light-emissive layer located between the charge carrier injecting layers for generating light and comprising the material according to claim 86.